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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/553,662 | 08/21/2006 | Stephan Rudiger Blum | 4102-57PUS | 3784 |

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COHEN, PONTANI, LIEBERMAN & PAVANE LLP
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NEW YORK, NY 10176

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| EXAMINER |
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MANOHARAN, VIRGINIA

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| ART UNIT | PAPER NUMBER |
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1797

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| MAIL DATE | DELIVERY MODE |
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08/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/553,662 | Applicant(s) BLUM ET AL. | |
| | Examiner Virginia Manoharan | Art Unit 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors, e.g., typographical, grammar, idiomatic, syntax and etc. Applicants' cooperations are requested in correcting any errors of which applicants may become aware in the specification.

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required. The abstract in the PCT does not suffice.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "13" and "44" have both been used to designate "first distillation column". Note page 9, para., [0034] and para [0043] respectively. The same holds true for the "second distillation column". [Applicants should further check the specification and /or drawing(s) that different numbers do not refer to the same part; and vice versa, i.e., different parts are not being referred to by the same number].

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the

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changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claims 21-23 and 36 are objected to because of the following reasons:

a). Claim 36 recites the limitation "the retentate" " in last line. There is insufficient antecedent basis for this limitation in the claim.

b). The limitation recited in claim 21, i.e., the membrane separation process is a membrane process" appears to be redundant [at least the latter is broadening the specific former recitation].

c). Note typographical error such as: "in" in claim 23, line 1 which should be --is--.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-21, 23-25, 27, 30-32 and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaschemekat et al (4,900,402) in view of Binning et al (2,970,106), Weiss (4,812,232), or Tusel et al (4,405,409).

Kaschemekat et al discloses substantially the process as broadly claimed e.g., in claim 20. See col. 4, lines 54-68 through cols. 5-6. The process/ method of Kaschemekat differs from the claimed invention in that claim 20, for example, recites the steps of feeding a distillate of the first distillation column to a second distillation column; and at least one of purifying the mash is by purifying a distillate from the second distillation column. However, the above process steps are conventionally done in the field of ethanol distillation as taught e.g, by anyone of Binning et al, Weiss, or Tusel et al. See e.g., the flow (27) to line (28) to (22, 39) and further flow to the second distillation column (41) in Fig. 1 of Binning. See also col. 7, lines 41-45 through col. 8 of Weiss; and cols. 3-6 of Tusel. To combine the references would have been obvious to one of ordinary skill in the art inasmuch as all the references are directed to the same environment, i.e., to a process of treating ethanol utilizing the combination of distillation and membrane separation processes.

Claims 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaschemekat et al (4,900,402) in view of Binning et al (2,970,106), Weiss (4,812,232), or Tusel et al (4,405,409) as applied to claims 20-21, 23-25, 27, 30-32 and 36-40 above, and further in view of Daoud (4,844,932).

To incorporate a dynamic cross-flow membrane filtration process, in the manner as taught by Daoud, to the membrane process of Kaschemekat, modified by anyone of

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the process of Binning et al, Weiss, or Tusel et al would have been obvious to one of ordinary skill in the art motivated by a reasonable success of obtaining the advantages taught e.g., at col. 3, lines 14-21 of the Daoud's reference which is reproduced below.

The use of a cross-flow filter element should permit the use of finer grinds of malt flour than are acceptable in grain bed filtration techniques. Careful choice of the material of the filter element should reduce the degree of cloudiness in the wort, and a cross-flow filtration technique has inherently greater flexibility in regard to batch size. With the present invention, malt flour with or without husk particles can be used for mashing.

Claims 26, 28-29 and 33-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a). Kampen discloses a process for manufacturing ethanol including the steps, inter alia, of mash preparation, distillation and microfiltration.
- b). Binning '680 discloses a combination of permeation and distillation processes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (571) 272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Virginia Manoharan/
Primary Examiner, Art Unit 1797